

**ROPTF Whitepaper**  
**Critical Hours to Be Used When Changing MSPI Planned Unavailability Baseline**

The Table below illustrates how the Planned UA is calculated. Note that original used unavailable hours from 2002 to 2004.

**Baseline Planned UA Calculation EDG A**

	1Q02	2Q02	3Q02	4Q02	1Q03	2Q03	3Q03	4Q03	1Q04	2Q04	3Q04	4Q04
Total ROP UA	9.95	0.00	0.00	10.50	0.00	21.88	21.64	7.62	0.00	1.18	35.80	5.27
(fault exposure UA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Unplanned UA)	0.00	0.00	0.00	0.00	0.00	0.00	16.97	0.00	0.00	0.00	16.58	0.00
On-line Excluded	0.00	0.00	0.00	0.00	0.00	110.78	0.00	0.00	0.00	0.00	0.00	0.00
Other Function UA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Rx not critical UA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(SSC Cascaded UA)	9.80	0.00	0.00	10.50	0.00	21.88	0.00	7.62	0.00	0.00	19.22	1.27
Total	0.15	0.00	0.00	0.00	0.00	110.78	4.67	0.00	0.00	1.18	0.00	4.00
Critical Hours	1942.88	1805.95	2208.00	2209.00	2115.10	2183.00	2208.00	1457.07	2184.00	2183.00	2208.00	2209.00

Total Planned UA (2002 to 2004)

120.78

Total Critical Hours (2002 to 2004)

24913.0

**Baseline Planned UA**

**4.85E-03**

**Generic Baseline Unplanned Unavailability**

**1.70E-03**

Currently, NEI 99-02, page F-9 says “The initial baseline planned unavailability is based on actual plant-specific values for the period 2002 through 2004. (Plant-specific values of the most recent data are used so that the indicator accurately reflects deviation from expected planned maintenance.) These values may change if the plant maintenance philosophy is substantially changed with respect to on-line maintenance or preventive maintenance. In these cases, the planned unavailability baseline value should be adjusted to reflect the current maintenance practices, including low frequency maintenance evolutions.”

The guidance is silent on whether, if the planned unavailability baseline hours change, should a licensee use the 2002 to 2004 critical hours, or use the critical hours from the most recent three years. As the intent of updating the baseline unavailability is to have the value be a reflection of the current maintenance philosophy, using the most recent 3-year critical hours would be appropriate..

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## Critical Hours to Be Used When Changing MSPI Planned Unavailability Baseline

### Special Considerations:

If the plant had an extended outage (>1 year) either during the 2002-2004 time frame or the most recent 3-year period, the baseline values can be artificially inflated. Looking at the data above, if the plant had been in an extended outage for the entirety of 2002, there would have been neither unavailability or critical hours during that period. Though the maintenance philosophy would have been unchanged, justifying using the same baseline unavailability. The chart below shows the impact on the baseline unavailability:

**Baseline Planned UA Calculation EDG A (Plant Shutdown during 2002)**

	1O02	2O02	3O02	4O02	1O03	2O03	3O03	4O03	1O04	2O04	3O04	4O04
Total ROP UA	9.95	0.00	0.00	10.50	0.00	21.88	21.64	7.62	0.00	1.18	35.80	5.27
(fault exposure UA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Unplanned UA)	0.00	0.00	0.00	0.00	0.00	0.00	16.97	0.00	0.00	0.00	16.58	0.00
On-line Excluded	0.00	0.00	0.00	0.00	0.00	110.78	0.00	0.00	0.00	0.00	0.00	0.00
Other Function UA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Rx not critical UA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(SSC Cascaded UA)	9.80	0.00	0.00	10.50	0.00	21.88	0.00	7.62	0.00	0.00	19.22	1.27
Total	0.00	0.00	0.00	0.00	0.00	110.78	4.67	0.00	0.00	1.18	0.00	4.00
Critical Hours	0.00	0.00	0.00	2209.00	2115.10	2183.00	2208.00	1457.07	2184.00	2183.00	2208.00	2209.00

Total Planned UA (2002 to 2004) 120.63

Total Critical Hours (2002 to 2004) 18956.1

**Baseline Planned UA** **6.36-03**

**Generic Baseline Unplanned Unavailability** **1.70E-03**

### Conclusion:

It is therefore recommended that the following be added to the current guidance “If the planned unavailability baseline value is adjusted, the critical hours should be changed to the most recent three years. If the most recent 3-year period includes an extended shutdown (>1 year), the most recent 3-year period that does not include the extended shutdown should be used”.